

REMARKS / ARGUMENTS

Remarks Regarding Claims Analysis

Applicant takes note of the Examiner's comments regarding claims analysis. Applicant accepts that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.

Remarks Regarding Claims Rejected Under 35 USC §102(e) and Under 35 USC §103(a)

The Examiner has rejected claims 1 – 4, 6 – 8, 10 – 14 and 16 – 21 under 35 U.S.C. §102(e) as anticipated by or in the alternative, under 35 U.S.C. §103(a) as obvious over Hoffman, et al (U.S. Patent 6,224,793, “the ‘793 patent”). Applicant respectfully traverses this rejection.

The Examiner has rejected claims 1 – 21 under 35 U.S.C. §102(e) as anticipated by Daage, et al (U.S. Patent 6,624,204, “the ‘204 patent”). Applicant respectfully traverses this rejection.

Summary of the Present Invention

The present development claims a catalyst pastille comprising an active catalyst that is enrobed in a protective hydrocarbon coating. The powdered catalyst, which is oxygen- or moisture-sensitive, has a density that is greater than the density of the hydrocarbon material. The hydrocarbon coating material creates an essentially oxygen- and/or moisture barrier for the powdered catalyst. The pastilles vary in shape and have a diameter of from about 2 mm to about 100 mm and a thickness of 1 mm to 10 mm.

U.S. Patent 6,224,793, Hoffman, et al.

U.S. Patent 6,224,793 teaches and claims a particle comprising an active agent encapsulated in a crystallizable or thermoplastic polymer. According to the ‘793 patent, “[p]referably, the active agent is soluble in the encapsulating material. The active agent may be either a liquid or solid at room temperature but it is preferably a liquid at processing temperatures.” (Column 4, lines 5 – 8.) The Examples teach active agents that are soluble in the encapsulating material, and the claims are limited to active agents that are soluble in the encapsulating material. As is known in the art, the use of organometallic agents – a preferred form of active agent for the ‘793 patent – greatly enhances the solubility of the active agent in polymeric materials as compared to using metals that lack organic ligands. The polymer encapsulating material may comprise polyethylene or polyethylene glycol, among others. Although not taught in the ‘793 patent, applicant will accept – for the purposes of this Amendment only –

the Examiner's contention that the catalyst would inherently be spherical, hemispherical, ellipsoidal, oval, domed or flaked.

The active agent of the present invention is in the form of a powdered catalyst throughout processing and into the final enrobed product. In other words, the active agent is not "soluble in the encapsulating material" and is not "a liquid at processing temperatures", as is the active agent in the '793 patent. The claims of the present application also require that the powdered catalyst has a density that is greater than the density of the enrobing hydrocarbon. The '793 patent does not teach or suggest the use of active agents with densities greater than the density of the encapsulating polymer.

Applicant contends that the catalyst of the present invention differs from the catalyst taught in the '793 patent in two key respects:

1. The catalyst pastille of the present invention has an active agent in powdered form in the pastille. The '793 patent does not teach or suggest that the catalyst is, or can be, in a powdered form when encapsulated.
2. The catalyst pastille of the present invention has a powdered catalyst which has a density greater than the density of the enrobing hydrocarbon. The '793 patent does not teach or suggest that the catalyst has, or could have, a density greater than the density of the enrobing hydrocarbon.

Thus, independent claims 1, 7 and 20 and their dependent claims 2 - 6, 8 - 14, 16 - 19 and 21, are not anticipated, or in the alternative obvious, in view of U.S. Patent 6,224,793.

U.S. Patent 6,624,204, Daage, et al.

U.S. Patent 6,624,204 teaches and claims a method for renewing the activity of dispersed active metal catalysts during operation of a reactor. Example 2 contained therein teaches a classic prior art method for wax-coating an oxidized catalyst: oxidized catalyst is slurried with a hot wax, then allowed to settle to the bottom of the mix tank, then the wax-coated catalyst is removed as a large lump - with the bulk of the catalyst in one part of the lump and wax having a low metal concentration in other parts of the lump. In other words, the metal catalyst is not uniformly distributed throughout the coating material.

By contrast, in the present application, part of the novelty arises from having a catalyst that has a greater density than the hydrocarbon coating material, but wherein the catalyst is uniformly dispersed throughout hydrocarbon coating. This is accomplished through judicial processing methods which prevent the catalyst from settling. The result is a catalyst pastille having unique properties relative to the enrobed catalysts of the prior art.

The Examiner contends that "[t]he catalyst would inherently be spherical, hemispherical, ellipsoidal, oval, domed or flaked", but there is no teaching or suggestion in the '204 patent that the wax-enrobed catalyst is formed into pastilles or any shape that is spherical, hemispherical, ellipsoidal, oval,

domed or flaked. Rather, the Examiner merely argues that such shapes are inherent because "a catalyst immobilized in a large block of wax would not be easy to handle, transport or place into a catalyst bed for further reaction with the activating materials." Applicant submits that this is exactly the point. The wax-enrobed catalysts of the prior art have NOT been easy to handle, transport or place into a catalyst bed. Applicant contends that Examiner has failed to meet the burden of supporting her inherency argument and that the burden continues to rest with the Examiner ("The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)"; "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999))

But even if the Applicant accepts the Examiner's contention that the enrobed catalyst of the '204 patent has a shape that is easy to handle, the '204 patent does not teach or suggest that the catalyst is uniformly dispersed throughout the hydrocarbon coating. Thus, the catalyst pastille of the present application is distinguishable from the enrobed catalyst taught in the '204 patent.

The Examiner further continues to set forth the argument that "[t]he density of the catalyst would inherently be greater than that of the hydrocarbon material or the catalyst because the catalyst would coat the wax if the opposite were true." Applicant fails to see the relationship between density and which material would coat which. The catalyst in the '204 application is a solid metal whereas the wax is melted allowing the wax to flow over and around the solid metal catalyst. The relative densities of the two materials are irrelevant with respect to which forms the coat. In fact, using a very simple analogy, under the Examiner's logic, it is not possible to have a dense fruit, such as apple pieces, set in a gelatin mold because the apple pieces have a greater density than the gelatin. Using the Examiner's logic, in this scenario, the apple pieces should envelope the gelatin. But this does not happen. Thus, Applicant contends that the Examiner has failed to make an argument for which any further response is required.

Applicant contends that the catalyst of the present invention differs from the catalyst taught in the '204 patent in a key respect:

The catalyst pastille of the present invention has an active agent that is uniformly dispersed throughout the hydrocarbon coating material of the pastille. The '204 patent does not teach or suggest that the catalyst is, or can be, uniformly dispersed when encapsulated in wax using the processing methods taught in the '204 patent.

Because the '204 patent does not teach or suggest a wax-enrobed catalyst wherein the catalyst is uniformly dispersed throughout the wax, independent claims 1, 7 and 20 and their dependent claims 2 - 6, 8 - 14, 16 - 19 and 21, are not anticipated in view of U.S. Patent 6,624,204.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Joan L. Simunic".

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